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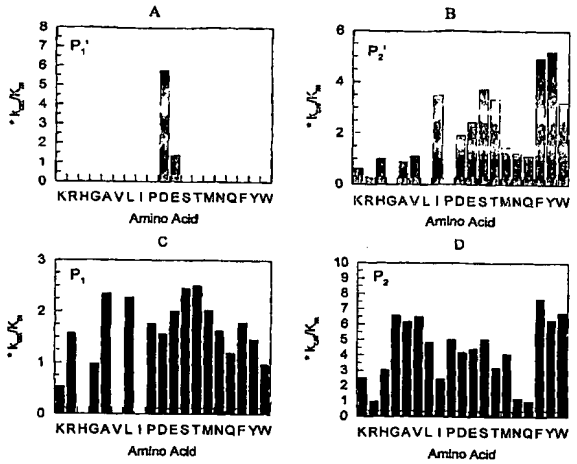
(54) Title: PHEX SUBSTRATES AND METHODS USING SAME



(57) Abstract: A fluorogenic PHEX substrate comprising a peptide unit; a fluorophore unit capable of conferring fluorescence on said substrate attached to an amino acid residue at a first end of the peptide unit; and a quencher unit capable of providing intramolecular quenching of said fluorescence attached to an amino acid residue at a second end of the peptide unit; the peptide unit having at least 6 amino acids residues including a sequence P_2-P_1-P_1-P_2· of 4 amino acid residues at positions P_2, P_1, P_1· and P_2· of the peptide unit, respectively; the amino acid residue at position P_2 being any amino acid residue; the amino acid residue at position P, being any amino acid residue except an isoleucine, a valine, or a histidine residue; the amino acid residue at position P_1· being an acidic amino acid residue selected from the group consisting of a glutamic acid residue and an aspartic acid residue, and being located at least 2 amino acid residues distal to both the fluorophore and the quencher units; the amino acid residue at position P_2· being any amino acid residue except a leucine, a proline or a glycine residue, with the proviso that said peptide unit does not have the sequence as set forth in SEQ ID NO:1. Methods of using the peptide sequence unit to identify PHEX modulators and for detecting PHEX in a sample.

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